

Notice of Allowability

Application No.

09/670,231

Examiner

Mujtaba K. Chaudry

Applicant(s)

SADOWSKY, JOHN S.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/6/2006.
2. ☒ The allowed claim(s) is/are 1-6,8-12,21 and 23-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


GUY LAMARRE
PRIMARY EXAMINER

REASONS FOR ALLOWANCE

Claims 1-6, 8-12, 21 and 23-26 are allowed. The following is an Examiner's statement of reasons for allowance:

Independent claim 1 of the present application teaches a system comprising: a digital signal processor comprising a bus connectable to a memory, wherein the digital signal processor further comprises a software program which, upon execution, causes the system to: identify a stage of a trellis diagram; identify a number of nodes in the stage; identify a number of branches extending from each node; and a butterfly coprocessor coupled to the digital signal processor to perform an operation scheduled by the digital signal processor, wherein the butterfly coprocessor further includes a plurality of butterfly units to perform butterfly operations. The foregoing limitations are not found in the prior arts of record. The prior art of record, namely Murakami et al. (herein after: Murakami) teaches a digital signal processor of a simple circuit configuration capable of implementing arithmetic processes and interruption processes efficiently in a reduced number of steps at a high processing speed. The digital signal processor comprises instruction execution pipeline stages including a stage in which data is read from a data memory and the data is applied to an arithmetic unit; an arithmetic unit for the execution stage, including a barrel shifter, a multiplier and an arithmetic and logic unit, a normalizing barrel shifter, a round-off/accumulation adder, internal data memories and a DMA transfer bus for a write/accumulation stage, an address generating unit capable of parallel and two-dimensional generation of two inputs one output data memory addresses and a DMA control unit for controlling the two-dimensional data transfer through a DMA bus between the internal data memories and an external data memory for an instruction execution stage. In particular, Murakami teaches (Figure

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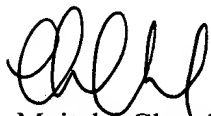
38) system comprising a digital signal processor (404) coupled to an external memory (413) and a host processor (403), which is analogous to the butterfly coprocessor of the present application. Furthermore, Murakami teaches a data address generator and an arithmetic unit to be incorporated within the program counter (407). However, Murakami fails to teach a digital signal processor having a bus connected to a memory, a data address generator and an arithmetic unit and a butterfly coprocessor, wherein the **digital signal processor has a software program which causes the system to identify a stage of a trellis diagram with the number of nodes in each stage with the number of branches extending from each node** [Emphasis added].

Independent claim 21 includes similar limitations of independent claim 1 and therefore is allowed for similar reasons.

Dependent claims 2-6, 8-12 and 23-26 depend from allowable independent claims 1 and 21 and inherently include limitations therein and therefore are allowed as well.

Any inquiries concerning this communication should be directed to the examiner, Mujtaba Chaudry who may be reached at 571-272-3817. The examiner may normally be reached Mon – Thur 6:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, Albert DeCady at 571-272-3819.



Mujtaba Chaudry
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December 14, 2006